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To the Secretary

Federal Communications Commission  
1919 M Street, N.W.  
Washington DC 20554

MAY 15 1997

FILED

Petition for Rulemaking

Hawthorne WI FM Channel 293A (106.5 mhz)

Submitted by:

Bruce F. Elving, Ph.D., petitioner, on his own behalf

FM Atlas Publishing  
P. O. Box 336  
Esko MN 55733-0336

May 9, 1997  
(218) 879-7676  
Fax (218) 879-8333

This a request that FM Channel 293A (106.5 mhz) be added to the FM radio Table of Allocations for Hawthorne WI.

As can be seen from the enclosed Technical Program by Steve Schott, the site-to-site distances from the geographic coordinates at the site I selected--namely, 46-30-30; 91-59-04--meet all the separation requirements of Sec. 73.207 of the rules of the Federal Communications Commission. This site is approximately nine km due west of Hawthorne.

Hawthorne is a small community 30 km southeast of Superior WI along Old U.S. Highways 53. It lacks any local radio or TV stations, commercial or educational. It is a rural community of about 500 persons. It has several businesses and a post office. It is near South Range, Maple, Poplar, Bennett, Wentworth, the Town of Oakland and Lake Nebagamon WI--other small communities without local radio or TV stations. It is on the periphery of the Superior-Duluth (MN) market; however, there is enough population and community interest, I believe, to support a commercial FM station in this part of rural Douglas County WI.

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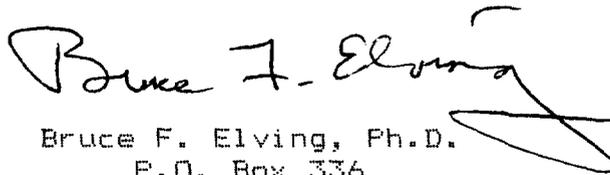
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There is a need for community public service and school closing announcements that local radio can provide.

I verify that the information contained in this letter and the technical program which follows is correct to the best of my knowledge.

If this channel is allocated to Hawthorne, I, Bruce F. Elving, plan to apply for it. In accordance with Sec. [73]1.52 of the Commission's rules, I am signing and verifying this petition in my behalf.

Respectfully submitted,

A handwritten signature in black ink that reads "Bruce F. Elving". The signature is written in a cursive style with a large, sweeping flourish at the end.

Bruce F. Elving, Ph.D.  
P.O. Box 336  
Esko MN 55733-0336

TECHNICAL PROGRAMS

By Steve Schott - Continental Electronics - April 1987

- A - FM OPERATING PARAMETERS (Xmtr TPO, line loss, etc.)
- B - FM COVERAGE CONTOURS (Distance to F.S. Contours)
- C - COAXIAL CABLE RATINGS (Derating for Temp, Pressure, VSWR)
- D - FM POWER CHART (Prints Chart of PA Ep vs. Ip)
- E - STL CALCULATIONS (Gains, Losses, & Path Clearance)
- F - METRIC CONVERSION (Converts Number to Any Unit)
- G - DECIBEL CONVERSION (Calculates dB, E, I, or P)
- ✓H - DISTANCE & BEARING (Approximation of FCC Method)
- I - VERTICAL FM PATTERN (Plots Vertical FM Field Pattern)
- J - T-NETWORK DESIGN (Calculates T-Network Components)
- K - REDUCED FM E.R.P. (Finds ERP Above Maximum Heights)
- L - SATELLITE FIND (Finds Azimuth, Heading, Elevation)
- M - H-PAD ATTENUATOR (Design H-Pad & Standard Resistors)
- N - TRANSMITTER EFFICIENCY (Calculates Operating Costs)
- Q - QUIT (Return to System)

User is responsible for software use. If errors found, call (214) 423-3644.

SELECT PROGRAM

SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD

Coordinates A are for an FM Channel 293A allotment, approx. 9 km west of Hawthorne WI at 46-30-30; 91-59-04

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to WMFG-FM Hibbing MN, 292C1 (106.3), one-step application (from 292C3)

LATITUDE: 47+ 19' 31.0" LONGITUDE: 93+ 16' 18.0"

Distance: 83.02 Miles Bearing: N 312.8 E Degrees
133.57 Kilometers
Required: 133 km. Margin .57 km-close!

A SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to WMFG-FM Hibbing MN, 292C3 (106.3); its present facilities

LATITUDE: 47+ 24' 30.0" LONGITUDE: 92+ 57' 4.0"

Distance: 77.15 Miles Bearing: N 323.7 E Degrees
124.14 Kilometers

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SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD  
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COORDINATES A

\*\*\*\*\*  
LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"  
\*\*\*\*\*

COORDINATES B to WQPM-FM Princeton MN, 291C2 (106.1)

\*\*\*\*\*  
LATITUDE: 45+ 23' 0.0" LONGITUDE: 93+ 42' 30.0"  
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Distance: 113.70 Miles Bearing: N 226.9 E Degrees  
182.94 Kilometers  
Required: 106 km, Margin: 76.94 km

A - Change Coordinates A B - Change Coordinates B Q - Quit

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SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD  
\*\*\*\*\*

COORDINATES A

\*\*\*\*\*  
LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"  
\*\*\*\*\*

COORDINATES B to WEGZ Washburn WI, 290C1 (105.9)

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LATITUDE: 46+ 41' 31.0" LONGITUDE: 90+ 59' 27.0"  
\*\*\*\*\*

Distance: 48.95 Miles Bearing: N 75.0 E Degrees  
78.76 Kilometers  
Required: 75 km, Margin: 3.76 km

A - Change Coordinates A B - Change Coordinates B Q - Quit

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to WUPM Ironwood MI, 295C1 (106.9)

LATITUDE: 46+ 28' 18.0" LONGITUDE: 90+ 0' 43.0"

Distance: 94.08 Miles Bearing: N 91.5 E Degrees
151.37 Kilometers
Required: 75 km. Margin: 76.37 km

A - Change Coordinates A B - Change Coordinates B Q - Quit

SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to KAOD (CP) Babbitt MN, 294C2 (106.7)

LATITUDE: 47+ 41' 18.0" LONGITUDE: 91+ 54' 15.0"

Distance: 81.60 Miles Bearing: N 2.7 E Degrees
131.29 Kilometers
Required: 106 km. Margin: 25.29 km

A - Change Coordinates A B - Change Coordinates B Q - Quit

SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to WJY Brainerd MN, 294C1 (106.7)

LATITUDE: 46+ 26' 36.0" LONGITUDE: 94+ 22' 58.0"

Distance: 114.46 Miles Bearing: N 267.8 E Degrees
184.17 Kilometers
Required: 122 km. Margin: 51.17 km

SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to WATQ Chetek WI, 294C2 (106.7). [WATQ is a construction permit.]

LATITUDE: 45+ 13' 12.0" LONGITUDE: 91+ 40' 56.0"

Distance: 90.16 Miles Bearing: N 170.7 E Degrees
145.07 Kilometers
Required: 106 km. Margin: 39.07 km

SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to KDAL-FM Duluth MN, 239C1 (95.7), I-F relationship

LATITUDE: 46+ 47' 7.0" LONGITUDE: 92+ 7' 15.0"

Distance: 20.20 Miles Bearing: N 341.3 E Degrees
32.50 Kilometers
Required: 12 km. Margin: 20.5 km

SITE TO SITE DISTANCE USING GEOGRAPHICAL COORDINATES -- FCC METHOD

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to (new, Agate Broadcasting CP) Moose Lake MN, 296C3 (107.1)

LATITUDE: 46+ 30' 30.0" LONGITUDE: 92+ 46' 48.0"

Distance: 37.92 Miles Bearing: N 270.0 E Degrees
61.01 Kilometers
Required: 42 km. Margin: 19.01 km



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COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to Betty Lutz Spooner WI 292A (106.3) application

LATITUDE: 45+ 45' 23.0" LONGITUDE: 91+ 54' 51.0"

Distance: 52.04 Miles Bearing: N 176.3 E Degrees
83.74 Kilometers
Required: 72 km. Margin: 11.74 km

A - Change Coordinates A B - Change Coordinates B Q - Quit

COORDINATES A

LATITUDE: 46+ 30' 30.0" LONGITUDE: 91+ 59' 4.0"

COORDINATES B to Quarnstrom Spooner WI 292A (106.3) application

LATITUDE: 45+ 50' 21.0" LONGITUDE: 91+ 58' 6.0"

Distance: 46.22 Miles Bearing: N 179.0 E Degrees
74.37 Kilometers
Required: 72 km. Margin: 2.37 km

A - Change Coordinates A B - Change Coordinates B Q - Quit